

## Evidence-based Psychosocial Assessment in Substance Use Disorders

Swati Kedia Gupta

### ABSTRACT

Globally, substance use disorders have become a major public health issues owing to the high morbidity, mortality, burden and the various psychosocial consequences. Epidemiological studies indicate a growing trend of both licit and illicit substances, lower age of initiation and high treatment gap. Both prevention as well as management is of paramount importance. To plan appropriate management, a comprehensive psychosocial assessment is an important first step. The aim of the current article is to provide an overview of the various domains of assessment, the available tools that can be used and assimilation of findings.

### INTRODUCTION

Substance use has emerged as a significant global public health challenge, contributing significantly to morbidity, mortality, disability, and the burden of disease (Ali et al., 2011; Tran et al., 2019). This pattern holds true for India as well, where the use of various substances has been documented and ingrained in the country's cultural heritage for centuries. Notably, alcohol, cannabis, and opium are mentioned in religious texts and play integral roles in numerous religious ceremonies and traditions throughout the nation (Sharma, 1996). Given the various negative psychosocial implications of substance use disorders, it is imperative that a comprehensive assessment is carried out, which can act as the stepping stone for developing individualized treatment plans. This article provides an overview of the goals and process of carrying out a comprehensive assessment in patients with substance use disorders.

#### Epidemiology in Indian Context

In India, the first largest epidemiological survey on substance use was carried out in 2004, which employed the household survey method and focused on males aged 12 to 60. It included a substantial sample size of 40,697 individuals and provided prevalence data for alcohol, cannabis, and opiates (Ray, 2004). The most recent survey was conducted in 2019, which encompassed 473,569 individuals aged 10 to 75 from all states and Union Territories in India. It utilized both Household survey and Respondent Driven Sampling techniques and reported data on a wider range of substances, including alcohol, cannabis, opioids, inhalants, stimulants, and sedatives (Ambekar et al., 2019). Some other nationwide surveys also covered the burden of tobacco and alcohol use in the general population, with the most notable being National Mental Health Survey of India (2015-16), National Family Health Survey, Longitudinal Ageing Study in India (2020-21) and Global Youth Tobacco Surveys (Gautham et al., 2020; Grover et al., 2020; IIPS, 2020; MoHFW, 2021).

Interestingly the prevalence of tobacco use has gone down in the last two decades. However, there is an alarming increase in use of alcohol as well as other illicit substances. As per latest survey report, current prevalence of alcohol use was found to be 14.6% with dependence found in 2.7%. Prevalence of cannabis use was found to be 2.8% and that of opioid dependence was 0.26%. Apart from that, the prevalence of harmful use and dependence for sedatives, inhalants, cocaine, ATS and other stimulants were found to be 0.11%, 1.13%, 0.03%, 0.06% and 0.12% respectively. Alarming, a treatment gap of almost 80% have been reported in most of the surveys (Ambekar et al., 2019; Murthy, 2017).

#### Assessment Overview

Substance use disorders are conceptualized from a biopsychosocial perspective, and therefore assessment needs to include all the three domains. Assessment is a continuous and multifaceted process that encompasses a interconnected set of stages, capabilities, and tactics, serving various objectives including:

1. Building a rapport with the client
2. Making an accurate diagnosis
3. Measuring the extent of the problem faced by client in various spheres in his life
4. Assess for comorbidities (e.g., mental illness, personality issues etc.)
5. Assess readiness for change/motivation level and
6. Planning appropriate management

Engagement and setting a tone of collaboration and trust are important first steps (Rapp & Goscha, 2011) The importance of building a “trusting and reciprocal relationship” with consumers, which needs to be reciprocal, friendly, purposeful and empowering cannot be under-estimated. Historically, it has been a challenge to involve and maintain individuals with addictive disorders in treatment services (Brunette et al., 2004). However, the duration and depth of involvement in these services play a significant role in predicting treatment

outcomes (Center for Substance Abuse Treatment, 2006). A pivotal aspect of this involvement is the therapeutic alliance established between the clinician and the individual seeking treatment, which can be broadly defined as the quality of the relationship between the clinician and the individual, founded on principles of collaboration, respect, and unconditional positive regard.

There are several effective strategies and approaches to boost engagement during the assessment process. The first strategy involves assessing the immediate needs of the individual seeking assistance and providing practical support to address those needs (Mueser et al., 2003). Another valuable strategy for enhancing engagement is to explore the client's short- and long-term goals, both in terms of treatment and broader life objectives. A third approach involves integrating basic motivational interviewing techniques into the assessment process, such as employing open-ended questions, using reflective listening, and acknowledging the client's feelings and perspectives (Miller & Rollnick, 2002).

#### Domains of Biopsychosocial Assessment

Once rapport has been established, a comprehensive biopsychosocial assessment can be carried out w.r.t. domains as illustrated in Figure 1.

**Figure 1:** Domains of Biopsychosocial Assessment in Addictive Disorders

Substance Use	Comorbidity & Maintaining Factors
<ul style="list-style-type: none"> <li>• History</li> <li>• Screening</li> <li>• Severity</li> <li>• Motivation/Readiness</li> <li>• Consequences</li> </ul>	<ul style="list-style-type: none"> <li>• Mental Illness</li> <li>• Personality</li> <li>• Cognitive functioning</li> <li>• Family &amp; Social functioning</li> <li>• Coping Skills</li> </ul>

#### Assessment of Substance Use

A well-taken history can form a cornerstone of reaching a diagnosis as well as understanding the various repercussions of substance use on an individual's life. History should include information about substance use per se (Mode of onset, frequency, duration, and escalation over time, Specific contexts of using substance; preferred route of administration, Intoxication, withdrawals, tolerance, abstinent attempts and complications), previous treatment attempts, past or present psychiatric and medical comorbidities, family genogram, history of substance use in family and level of support system and consequences of substance use on

various psychological, social, economic and legal aspects.

Mental Status Examination must include "Readiness to Change" or motivation of the individual. Motivation plays a pivotal role in all types of psychological treatment, with particular significance in the management of substance use disorders (Prochaska & DiClemente, 1992). The absence of motivation is frequently identified as a primary factor contributing to client attrition, non-compliance with treatment, and relapse (Ryan et al., 1995). It can be assessed using a Visual analogue scale in which the person can be asked to rate following two questions on a scale of 0-10: (1) how ready do you feel in changing your substance use habits? And (2) How important it is for you to change your substance use habits? Some scales to measure readiness are Readiness to Change Questionnaire (treatment version -30 items rated on 5-point rating scale) (Heather et al., 1991); Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES), which is a 32 items on a 6-point rating scale (Miller & Tonigan, 1996), Brief Situational Confidence Questionnaire (8 items rated: 0-100) (SAMHSA, 1999) and Alcohol and Drug Use Consequence Questionnaire: (29 items on a 5-point rating scale (Cunningham et al., 1997). Table 1 elucidates some of the instruments and tools that can be used in screening of substance use disorders as well as assessing their severity.

**Table 1:** List of Screening Interviews and Severity Assessment Scales for Substance Use Disorders

Instrument	Time Taken	Training Required	Copyright Issues
Alcohol Use Disorder Identification Test (AUDIT) -WHO; 10 items	5 mins	Minimal	No
CAGE/CAGE-AID -Four items (Cutdown, Annoyed, Guilty, Eye-Opener)	2 mins	None (self-rated)	No
Michigan Alcoholism Screening Test (MAST) -24 items; cut-off =13	10 mins	Minimal	No
Drug Abuse Screening Test (DAST)	5 mins	Minimal	No
The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) -WHO; 8 items - Used in Brief Interventions	5 mins	Minimal	No
Addiction Severity Index (ASI) and ASI- Lite	60 mins	Extensive	Yes
Severity of Alcohol Dependence Questionnaire (SADQ- C)	5 mins	None (self-rated)	No
Severity of Dependence Scale (SDS)	5 mins	None	No

#### Comorbid Mental Illnesses and Personality

Over the years, epidemiological data has revealed a strong link between individuals diagnosed with substance use disorders and heightened risk of developing mental illnesses, giving rise to the concept of "dual diagnosis" (Mertens et al.,

2003). Findings from one of the most extensive comorbidity surveys, conducted by Kessler et al. in 1990s, demonstrated that 41-65% of individuals with a lifetime history of substance use disorders also had at least one other psychiatric disorder. Similarly, those with a lifetime diagnosis of a mental disorder often also had a lifetime diagnosis of a substance use disorder (Kessler et al., 1996).

Studies from India have highlighted comorbidities in patients diagnosed with substance use disorders, ranging from 76-92% in various investigations, with the most common comorbid conditions being depression, antisocial personality disorder, anxiety disorders and Adult Attention Deficit Hyperactivity Disorder (Parmar & Kalojiya, 2018; Singh et al., 2005; Vohra et al., 2003), which mimics the global trends as well. Therefore, screening for presence of comorbid mental illnesses is imperative.

Certain personality traits like sensation-seeking, impulsivity, low conscientiousness, high neuroticism etc have been found to affect development and maintenance of substance use disorders (Mulder, 2002; Verheul, 2001). In routine clinical practice, it may not be feasible to assess personality traits as most the instruments are lengthy and require expertise in interpretation. Thus, personality should be assessed only when specifically indicated, for example, when a client presents with difficult premorbid temperament, a history characterized by: antisocial acts, deliberate self-harm, frequent job changes, unstable relationship patterns, avoidance of social situations, poor ability to adapt, Potential medico-legal case and multiple relapses. Some of the commonly used instruments are Eysenck Personality Questionnaire, 16-PF, MCMI-III and IV, MMPI-2, NEO-FFI/NEO-PI-R.

Some of the commonly used screening instruments for other psychiatric illnesses are: SCAN 2.1, CIDI Screener, SCL-90-R, Kessler-6 and 10, PHQ-9, GHQ-7, Geriatric Depression Scale and IPDE screen. Rating scales like HAM-A, HAM-D, BDI-II, BAI etc can be used in routine clinical practice to assess progress. Apart from these, some diagnostic interview schedules can also be used to reach a conclusive diagnosis as indicated below:

- **M.I.N.I.** Version 6.0
- **CIDI v3.0** (Composite International Diagnostic Interview)
- **SCID** (Structured Clinical Interview for DSM)
- **CAAPE-** Comprehensive Addiction and Psychological Evaluation
- **IPDE-** International Personality Disorder Examination
- **SCID-PD** - Structured Clinical Interview for DSM-IV (Personality Disorders)
- **PDI-IV** -Personality Disorder Interview – IV

- **PAS** - Personality Assessment Schedule
- **DIVA-5** (for Adult Attention Deficit Hyperactivity Disorder)

#### Cognitive Functioning

As far back as 1901, Bonhoefer showcased memory impairment in individuals experiencing delirium tremens, and since then, a multitude of studies have consistently revealed the existence of cognitive dysfunction in diverse substance use disorders (Adamis et al., 2007). Estimates of the prevalence of cognitive dysfunction in these disorders range from 30% to 80% (Copersino et al., 2009). Individuals with substance use disorders frequently exhibit a range of cognitive deficits, including challenges with attention and concentration, delayed response times, limited ideational fluency, difficulties in problem-solving and abstract thinking, impaired visual-motor integration, memory impairments, and reduced cognitive flexibility (Gupta et al., 2018).

Cognitive functioning can be readily evaluated as part of routine clinical practice through instruments such as the Mini Mental State Examination (MMSE) or its Hindi version (HMSE), Montreal Cognitive Assessment (MOCA) and Addenbrooke's Cognitive Examination (ACE-III). Nevertheless, a comprehensive assessment becomes essential in specific situations, such as in cases of advanced age, chronic substance use, a history marked by birth or developmental delays, the presence of attention deficit hyperactivity disorder, a history of seizures, traumatic brain injury, current complaints of cognitive impairments, or the presence of conditions like Wernicke's encephalopathy or Korsakoff syndrome. Table 2 lists out some of the commonly assessed cognitive functions and their tests.

**Table 2:** Cognitive Functions and their Assessment

Function	Tools Used
Attention and Concentration	Continuous Performance Test Colour Trail 1 and 2 Digit Span Letter Cancellation
Orientation	Clinical Judgement
Intellectual Functioning	Binet-Kamat Test of Intelligence Weschler Adult Intelligence Scale -IV (India Norms) Progressive Matrices Bhatia Short Battery of Performance Test of Intelligence
Language	Vocabulary Verbal Fluency Aphasia Screening Test Boston Naming Test
Memory	Weschler Memory Scale -III PGI-Memory Scale Audio-verbal Learning test Complex Figure test
Executive Functioning	Stroop Color-Word Test Tower of London Verbal and Visual N-Back

Function	Tools Used
	Spatial Span Wisconsin Card Sorting test Clock drawing test
Motor & Sensory	Finger tapping test Test for ideomotor apraxia Cube construction Bender Gestalt Test

### Social and Family Functioning

Within clinical settings, it is essential to routinely assess various social and family dimensions for each client, including:

- Family history of drug use, other psychiatric illnesses, and suicide.
- The client's knowledge, attitude, and perception of their family and drug use.
- Patterns of relationships within the family.
- The impact of substance use on family functioning.
- The presence of support systems within and outside the family.
- Peer group associations, encompassing both substance-using and non-using peers.
- Occupational functioning.

In cases where it is warranted, a more comprehensive evaluation should be undertaken to identify the strengths and weaknesses within the family and social system, which may involve examining positive role models and non-drug-using friends, as well as weaknesses such as significant conflicts or family breakdowns. Additionally, this assessment should consider family stressors unrelated to drug use, communication dynamics, decision-making processes, conflict resolution skills, and the emotional and physical aspects of the individual's relationship with their spouse. Furthermore, it is crucial to evaluate the compatibility between the individual and their job. Some of the commonly used tests are: Family Environment Scale - *Indian adaptation* (Moos & Moos, 1986, 2002), Marital Quality Scale (Shah, 1995), McMasters Family Assessment Device (Miller Ivan W. et al., 2007), Revised Dyadic Adjustment Scale (Busby et al., 1995) and Couple Satisfaction Index (Funk & Rogge, 2007)

### Coping Skills

Coping skills are conscious effort to solve personal/interpersonal problems, and seeking to master, minimize or tolerate stress. Alcohol/substance use are seen because of poor coping skills (Coriale et al., 2012). Effective coping skills are associated with positive outcomes in treatment- seekers and therefore are important component of relapse prevention (Hasking et al., 2011; Kiluk et al., 2011). In routine clinical practice, coping

skills can be assessed through “situational analysis”, that is, asking the client how they have faced stress situations in the past especially before onset of substance use. Also, they can be asked about situations wherein they could prevent a lapse or a relapse.

### Assimilation of Assessment Findings

Once the assessment is complete, the clinician can draw out an individualized treatment plan for the client. It is important to keep certain factors in mind such as:

- Client's choice and needs
- Client's strengths and weaknesses
- Creating a hierarchy of goals especially in case of comorbidity
- Choosing intervention that are appropriate to stage of change (e.g., a patient in contemplative stage will benefit from motivational interviewing rather than coping skill training).

### CONCLUSION

To conclude, substance use disorders have various biopsychosocial ramifications and if left untreated, can lead to significant mortality, morbidity, and burden. To develop an individualized treatment plan, it is essential to carry out comprehensive assessment. Some of the tests have been adapted for Indian population. However, there is a need to develop assessment tools, which are culturally appropriate. Moreover, in the digital era, it is also important to have ecologically valid, digital assessments that can be carried out online.

### REFERENCES

- Adamis, D., Treloar, A., Martin, F. C., & Macdonald, A. J. D. (2007). A brief review of the history of delirium as a mental disorder. *History of Psychiatry*, 18(4), 459–469. <https://doi.org/10.1177/0957154X07076467>
- Ali, S., Onaivi, E., Dodd, P., Cadet, J. L., Schenk, S., Kuhar, M., & Koob, G. (2011). Understanding the Global Problem of Drug Addiction is a Challenge for IDARS Scientists. *Current Neuropharmacology*, 9, 2–7. <https://doi.org/10.2174/157015911795017245>
- Ambekar, A., Agrawal, A., Rao, R., Mishra, A., Khandelwal, S., & Chadda, R. (2019). *Magnitude of Substance Use in India 2019*. <https://online.fliphtml5.com/ljdbm/aacc/#p=1>. Ministry of Social Justice and Empowerment.
- Brunette, M. F., Mueser, K. T., & Drake, R. E. (2004). A review of research on residential programs for people with severe mental illness and co-occurring substance

- use disorders. *Drug and Alcohol Review*, 23(4), 471–481. <https://doi.org/10.1080/09595230412331324590>
- Busby, D., Christensen, C., Crane, D., & Larson, J. (1995). A Revision of the Dyadic Adjustment Scale for Use with Distressed and Nondistressed Couples: Construct Hierarchy and Multidimensional Scales. *Journal of Marital and Family Therapy*, 21, 289–308. <https://doi.org/10.1111/j.1752-0606.1995.tb00163.x>
- Center for Substance Abuse Treatment. (2006). *Substance Abuse: Clinical Issues in Intensive Outpatient Treatment*. Substance Abuse and Mental Health Services Administration (US). <http://www.ncbi.nlm.nih.gov/books/NBK64093/>
- Copersino, M. L., Fals-Stewart, W., Fitzmaurice, G., Schretlen, D. J., Sokoloff, J., & Weiss, R. D. (2009). Rapid cognitive screening of patients with substance use disorders. *Experimental and Clinical Psychopharmacology*, 17(5), 337–344. <https://doi.org/10.1037/a0017260>
- Coriale, G., Bilotta, E., Leone, L., Cosimi, F., Porrari, R., De Rosa, F., & Ceccanti, M. (2012). Avoidance coping strategies, alexithymia and alcohol abuse: A mediation analysis. *Addictive Behaviors*, 37(11), 1224–1229. <https://doi.org/10.1016/j.addbeh.2012.05.018>
- Cunningham, J., Sobell, L., Gavin, D., Sobell, M., & Breslin, F. (1997). Assessing Motivation for Change: Preliminary Development and Evaluation of a Scale for Measuring the Costs and Benefits of Changing Alcohol or Drug Use. *Psychology of Addictive Behaviors*, 107–114. <https://doi.org/10.1037/0893-164X.11.2.107>
- Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. *Journal of Family Psychology: JFP: Journal of the Division of Family Psychology of the American Psychological Association (Division 43)*, 21(4), 572–583. <https://doi.org/10.1037/0893-3200.21.4.572>
- Gautham, M. S., Gururaj, G., Varghese, M., Benegal, V., Rao, G. N., Kokane, A., Chavan, B. S., Dalal, P. K., Ram, D., Pathak, K., Lenin Singh, R. K., Singh, L. K., Sharma, P., Saha, P. K., Ramasubramanian, C., Mehta, R. Y., Shibukumar, T. M., Deuri, S. P., Krishnatreya, M., ... Majhi, G. (2020). The National Mental Health Survey of India (2016): Prevalence, socio-demographic correlates and treatment gap of mental morbidity. *International Journal of Social Psychiatry*, 66(4), 361–372. <https://doi.org/10.1177/0020764020907941>
- Grover, S., Anand, T., Kishore, J., Tripathy, J. P., & Sinha, D. N. (2020). Tobacco Use Among the Youth in India: Evidence From Global Adult Tobacco Survey-2 (2016-2017). *Tobacco Use Insights*, 13, 1179173X20927397. <https://doi.org/10.1177/1179173X20927397>
- Gupta, A., Murthy, P., & Rao, S. (2018). Brief screening for cognitive impairment in addictive disorders. *Indian Journal of Psychiatry*, 60(Suppl 4), S451–S456. [https://doi.org/10.4103/psychiatry.IndianJPsychiatry\\_41\\_18](https://doi.org/10.4103/psychiatry.IndianJPsychiatry_41_18)
- Hasking, P., Lyvers, M., Carlopio, C., & Raber, A. (2011). The relationship between coping strategies, alcohol expectancies, drinking motives and drinking behaviour. *Addictive Behaviors*, 36(5), 479–487. <https://doi.org/10.1016/j.addbeh.2011.01.014>
- Heather, N., Gold, R., & Rollnick, S. (1991). *Readiness to Change Questionnaire: User's Manual*. (Technical Report 15). National Drug & Alcohol Research Centre, University of New South Wales.
- IIPS. (2020). *Longitudinal Ageing Study in India (LASI)*. International Institute for Population Sciences. <https://www.iipsindia.ac.in/lasi>
- Kessler, R. C., Nelson, C. B., McGonagle, K. A., Edlund, M. J., Frank, R. G., & Leaf, P. J. (1996). The epidemiology of co-occurring addictive and mental disorders: Implications for prevention and service utilization. *The American Journal of Orthopsychiatry*, 66(1), 17–31. <https://doi.org/10.1037/h0080151>
- Kiluk, B. D., Nich, C., & Carroll, K. M. (2011). Relationship of Cognitive Function and the Acquisition of Coping Skills in Computer Assisted Treatment for Substance Use Disorders. *Drug and Alcohol Dependence*, 114(2–3), 169–176. <https://doi.org/10.1016/j.drugalcdep.2010.09.019>
- Mertens, J. R., Lu, Y. W., Parthasarathy, S., Moore, C., & Weisner, C. M. (2003). Medical and psychiatric conditions of alcohol and drug treatment patients in an HMO: Comparison with matched controls. *Archives of Internal Medicine*, 163(20), 2511–2517. <https://doi.org/10.1001/archinte.163.20.2511>
- Miller Ivan W., Epstein Nathan B., Bishop Duane S., & Keitner Gabor I. (2007). The McMaster family assessment device: reliability and validity\*. *Journal of Marital and Family Therapy*, 11(4), 345–356. <https://doi.org/10.1111/j.1752-0606.1985.tb00028.x>
- Miller, W., & Rollnick, S. (2002). *Motivational Interviewing: Preparing People for Change*. Guilford Press.
- Miller, W., & Tonigan, J. (1996). Assessing drinkers' motivation for change: The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES). *Psychology of Addictive Behaviors*, 10, 81–89. <https://doi.org/10.1037/0893-164X.10.2.81>

- MoHFW. (2021). *Release of NFHS-5 (2019-21)-Compendium of Factsheets*. Ministry of Health and Family Welfare, Government of India. <https://main.mohfw.gov.in/basicpage-14>
- Moos, R., & Moos, B. (1986). *Family Environment Scale Manual*. Consulting Psychologist Press.
- Moos, R., & Moos, B. (2002). *Family Environment Scale Manual: Development, Applications, Research* (3rd ed.). Mind Garden.
- Mueser, K., Noordsy, D., Drake, R., & Fox, L. (Eds.). (2003). *Integrated Treatment for Dual Disorders: A Guide to Effective Practice*. Guilford Press. <https://case.edu/socialwork/centerforebp/resources/integrated-treatment-dual-disorders-guide-effective-practice>
- Mulder, R. T. (2002). Alcoholism and Personality. *Australian and New Zealand Journal of Psychiatry*, 36(1), 46–51. <https://doi.org/10.1046/j.1440-1614.2002.00958.x>
- Murthy, R. S. (2017). National Mental Health Survey of India 2015-2016. *Indian Journal of Psychiatry*, 59(1), 21–26. [https://doi.org/10.4103/psychiatry.IndianJPsychiatry\\_102\\_17](https://doi.org/10.4103/psychiatry.IndianJPsychiatry_102_17)
- Parmar, A., & Kaloiya, G. (2018). Comorbidity of Personality Disorder among Substance Use Disorder Patients: A Narrative Review. *Indian Journal of Psychological Medicine*, 40(6), 517–527. [https://doi.org/10.4103/IJPSYM.IJPSYM\\_164\\_18](https://doi.org/10.4103/IJPSYM.IJPSYM_164_18)
- Prochaska, J. O., & DiClemente, C. C. (1992). Stages of change in the modification of problem behaviors. *Progress in Behavior Modification*, 28, 183–218.
- Rapp, C. A., & Goscha, R. J. (2011). *The Strengths Model: A Recovery-Oriented Approach to Mental Health Services* (Third Edition, New to this Edition.; Third Edition, New to this Edition:). Oxford University Press.
- Ray, R. (2004). *The Extent, Patterns and Trends of Drug Abuse in India—National Survey*. Ministry of Social Justice and Empowerment and United Nations Office on Drugs and Crime. [http://www.unodc.org/india/national\\_Survey.html](http://www.unodc.org/india/national_Survey.html)
- Ryan, R. M., Plant, R. W., & O'Malley, S. (1995). Initial motivations for alcohol treatment: Relations with patient characteristics, treatment involvement, and dropout. *Addictive Behaviors*, 20(3), 279–297. [https://doi.org/10.1016/0306-4603\(94\)00072-7](https://doi.org/10.1016/0306-4603(94)00072-7)
- SAMHSA. (1999). *Enhancing Motivation for Change in Substance Abuse Treatment*. Substance Abuse and Mental Health Services Administration. <https://pubmed.ncbi.nlm.nih.gov/22514841/>
- Shah, A. (1995). Clinical Validity of the Marital Quality Scale. *NIMHANS Journal*, 13, 23–31.
- Sharma, H. K. (1996). Sociocultural perspective of substance use in India. *Substance Use & Misuse*, 31(11–12), 1689–1714. <https://doi.org/10.3109/10826089609063997>
- Singh, N. H., Sharma, S. G., & Pasweth, A. M. (2005). Psychiatric co-morbidity among alcohol dependants. *Indian Journal of Psychiatry*, 47(4), 222. <https://doi.org/10.4103/0019-5545.43058>
- Tran, B. X., Moir, M., Latkin, C. A., Hall, B. J., Nguyen, C. T., Ha, G. H., Nguyen, N. B., Ho, C. S. H., & Ho, R. C. M. (2019). Global research mapping of substance use disorder and treatment 1971–2017: Implications for priority setting. *Substance Abuse Treatment, Prevention, and Policy*, 14(1), 21. <https://doi.org/10.1186/s13011-019-0204-7>
- Verheul, R. (2001). Co-morbidity of personality disorders in individuals with substance use disorders. *European Psychiatry: The Journal of the Association of European Psychiatrists*, 16(5), 274–282.
- Vohra, A. K., Yadav, B. S., & Khurana, H. (2003). A Study of Psychiatric Comorbidity in Alcohol Dependence. *Indian Journal of Psychiatry*, 45(4), 247–250.